

## **REMARKS**

Applicants respectfully request reconsideration of the above referenced patent application in view of the amendments and remarks set forth herein, and respectfully request that the Examiner withdraw all rejections. Claims 1, 2, 4, 5, 7, 8, 10, 11, 13, 14, 16, 17, 20, 21, 23, 24, 27, 28, 30, 31, 34, 35, 37 and 38 have been amended. No claims have been canceled. No claims have been added. Thus, claims 1-40 are pending.

### **35 U.S.C. §103(a) Rejections**

#### **35 U.S.C. §103(a) Rejection over *Chang*, *G.729* and *Annex B***

The Office Action rejects claims 1-40 under §103(a) as being obvious in light of *Chang et al.*, USPN 6,226,607 (hereinafter “*Chang*”) in view of International Telecommunication Union Recommendation G.729 (hereinafter “*G.729*”) and further in view of the Annex B to *G.729* (hereinafter “*Annex B*”). To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by one or more prior art references. *See* M.P.E.P. § 2143.03. The Office Action alleges that *G.729* and *Annex B* disclose, *inter alia*, computing for a non active voice frame a current excitation based on one of random excitations which are based on a plurality of random noise samples. The Office Action further alleges that *Chang* discloses re-using the random excitations to compute a current excitations for other non active voice frames. For at least the following reasons, Applicants traverse the above rejection.

Applicants respectfully submit that each of the above rejected claims is not obvious in light of *Chang*, *G.729* and *Annex B*, based at least on the failure of the references to teach or suggest (emphasis added):

“...**altering the scale factor** based on a **noise condition** of the signal, and computing for another frame of the non active voice signal another excitation **based on the altered scale factor** and the random excitations, the another excitation **representative of the noise condition** of the signal.”

as variously recited in current independent claims 1, 7, 13, 20, 27 and 34.

In their current form, independent claims 1, 7, 13, 20, 27 and 34 are variously directed to using both a plurality of random excitations and a scale factor to compute respective excitations for a first frame and for a second frame. The scale factor is **altered** between the computation of the two excitations according to a **noise condition** of a signal – e.g. the signal being encoded to create a non active voice signal. The claim amendments are supported in the original disclosure at least by paragraph [0026], which describes the altering of a scale factor (emphasis added):

“...As the real background or **ambient conditions change**, scale factors can be used to **match** the composite excitation signal (the random noise being a component) to the real environment. In short, the encoder need not generate a new random noise signal for each non active voice frame because **altering the scale factors only** is sufficient to approximately match the scaled random noise and resulting composite excitation signal to ambient noise conditions....”

By altering a scale factor (and not the plurality of random excitations) when computing excitations for different frames of a non active voice signal, Applicants’ invention reduces the number of computing cycles required while creating comfort noise which approximates **changing** noise conditions.

In rejecting claims 1-40, the Office Action relies on col. 4, lines 57-65, col. 6, lines 1-10 and col. 7, lines 1-10 of *Chang* as disclosing the reusing of a plurality of random excitations to compute non active voice frames. *Chang* discuss generating a Gaussian random variable having a mean of zero and a variance to encode silence frames. The variable is generated with a look up table of values X from a probability density function which is addressed by quantized values Y from a cumulative distribution function. However, *Chang* does **not** concern itself with accommodating **changes** in ambient noise conditions when encoding silence frames. More particularly, any encoding of silence frames in *Chang* **fails** to teach or suggest **altering a scale factor** to account for a change in an ambient noise condition. As a result, *Chang* could only produce **one** type of comfort noise, if any, **regardless** of the changing noise conditions of the source signal being encoded.

The Office Action does **not** offer either *G.729* or *Annex B* as teaching or suggesting altering a scale factor and not the plurality of random excitations when computing excitations for different frames of a non active voice signal. Insofar as *G.729* and *Annex B* rely on a **different** plurality of random excitations for encoding **each** non active voice frame, Applicants respectfully submit that *G.729* and *Annex B* fail to teach or suggest at least one claim limitation which is not taught or suggested by *Chang* alone. Assuming *arguendo* that all other claim limitations are obvious, which Applicants do not agree, no combination of *Chang*, *G.729* and *Annex B* teaches or suggests computing an excitation based on a plurality of random excitations and a scale factor and computing another excitation based on the **same** plurality of random excitations and an **altered** scale factor, where the scale factor is altered **based on a noise condition** of a signal. Therefore, the cited references fail to either teach or suggest at least one limitation of the invention as variously recited in each of independent claims 1, 7, 13, 20, 27 and 34.

Accordingly, each of independent claims 1, 7, 13, 20, 27 and 34 is non-obvious in light of *Chang*, *G.729* and *Annex B*. If an independent claim is non-obvious under 35 U.S.C. §103, then any claims depending therefrom – e.g. claims 2-6, 8-12, 14-19, 21-26, 28-33 and 35-40 – are also non-obvious. See M.P.E.P. §2143.03. For at least the foregoing reasons, Applicants request that the above 35 U.S.C. §103(a) rejection of claims 1-40 based on *Chang*, *G.729* and *Annex B* be withdrawn.

CONCLUSION

For at least the foregoing reasons, Applicants submit that the objections and rejections have been overcome. Therefore, claims 1-40 are in condition for allowance and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present application. Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,  
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